

THE ANTHOMYIID GENUS *ATHERIGONA*
IN AMERICA*(Diptera)*

BY J. M. ALDRICH

The genus *Atherigona* was established by Rondani in 1856 (Prodrome, i, 97). He included but one species, which he designated as type—*Coenosia varia* Mg. Schiner in 1862 (Fauna Austr., i, 669) redescribed both genus and species. Rondani again in 1877 (Prodrome, vi, 15, 250) describes the genus and species, but makes the latter a synonym of *quadripunctata* Rossi; he adds a new Italian species, *soccata*. Meade (Descriptive List Br. Anth., ii, 76, 1897) also redescribes the genus and type species.

Stein has dealt with the genus several times. In 1900 (Termesz. Füzetek, xxiii, 154–159) he described five species from New Guinea; in 1902 (Mittheil. Zool. Mus. Berlin, ii, 110) he adds one from Egypt; in volume iii of the Palaearctic Catalogue (1907) he lists two European and several eastern species. In 1913 (Annales Mus. Nat. Hung., xi, 529–541) he discusses the genus at some length, on the basis of abundant African and oriental material, describing six more species and recognizing *Coenosia laeta* Wied. as a prior name for one of his own earlier ones.

Meanwhile, Grimshaw in 1902 (Fauna Hawaiiensis, Dipt., 41) had described *Acritochaeta pulvinata* new genus and species from Hawaii, regarded as a subgenus by Stein.

This is all the literature known to me, embodying about 18 species, of which two are European, the remainder essentially oriental in distribution, but covering a wide range from Africa to Hawaii. Nothing, I believe, has been published on habits, and there is no reference to any American occurrence.

Grimshaw's species, which I would call *Atherigona pulvinata*, has come to me for identification as a fruit insect several times in recent years, and has a wide distribution in tropical and subtropical America, as well as in the Pacific Islands, as shown by the following records, in which A indicates material

in my collection and that determined by me in past years, and NM additional records from specimens in the National Museum:

- Havana, Cuba, sent me by C. F. Baker about 1898. A.
 Florida, breeding in bell peppers, the specimens intercepted in California by the Board of Horticulture. A.
 Rarotonga, Cook Ids., in avocados, intercepted by California Board of Horticulture. A.
 Fiji, bred from decaying fruit (Compere, Cal. Bd. Hort.) A.
 Hongkong, bred from Chili peppers (Compere, Cal. Bd. Hort.). A.
 Nadji, Fiji (Illingworth). A.
 Pernambuco, Brazil, 1-3-1883, no other data; the earliest American record so far known. NM.
 Tampico, Mexico, bred from rotting oranges and tangerines, D. L. Crawford, 1913. NM.
 Turner, Florida, bred from tomato, 1907. NM.
 Hermosillo, Mexico, from pupæ in injured orange, R. S. Woglum. NM.
 Biscayne Bay, Florida, Mrs. Slosson; this undated specimen was probably taken almost as early as Baker's Havana ones. NM.
 Miami, Florida, F. Knab, 1912. NM.
 Falls Church, Virginia, Banks; no date, but probably collected at least ten years ago. A.
 Alhajuella, Panama, 1917, Busck. NM.
 La Chorrera, Panama, 1912, Busck. NM.
 Trinidad R., Panama, 1912, Busck. NM.
 Las Cascadas, Canal Zone, Panama, Jennings. NM.
 Galapagos Islands, Charles Island, 1899. NM.
 San Francisco Mountains, Santo Domingo, 1905, Busck. NM.
 Honolulu, Hawaii, bred from alligator pears and bell peppers, Back, 1912. NM.
 Honolulu, Hawaii, bred from umbrella tree nuts, H. P. Severin. NM. A.
 Honolulu, Hawaii, in lily bulbs, Cal. Bd. of Horticulture. A.

Dr. E. A. Back, who bred many specimens, tells me that he does not regard the species as an important fruit insect, but rather as a scavenger; and Mr. O. H. Swezey confirms this view. But it is certainly remarkable that so many rearing records have accumulated.

In order to make the genus and species recognizable, the following descriptions are offered:

Genus *Atherigona* Rondani

Described from Italian specimens, determined by Bezzi,

of the types species *varia*. Head high and short, front nearly horizontal, antennæ inserted high and partially concealed in profile in a deep facial excavation which extends to the edge of the mouth; lower edge of head about as long as the front, giving the head in profile a nearly rectangular form, the anterior and posterior sides almost parallel; third joint of antenna long and wide, reaching almost to the vibrissæ, which are at oral margin, arista bare. Eye of peculiar shape, elongate vertically with anterior and posterior margins parallel for some distance, its lower edge almost reaching edge of mouth, so there is only a very narrow bucca or "cheek;" parafacial also very narrow, with a sharp edge bounding the deep facial excavation; front parallel-sided, of equal width in both sexes, with a single row of five bristles on each side, which extend only to the antennal insertion. Ocellars normal, a pair of small hairs behind them, then a pair of good-sized divergent post-verticals. The usual two pairs of verticals, proboscis small, palpi of ordinary size.

Thorax rather narrow, with large humeri, chaetotaxy as follows: dorsocentrals four behind and two before the suture, but all very small and hardly distinguishable except the hindmost two, humeral 3, posthumeral 1, presutural 1, notopleural 2, prothoracic 2, mesopleural only 1 large and 2 smaller along hind edge, sternopleural 3 in an almost equilateral triangle, supraalar 1, prealar indistinguishable, intraalar 1 and a couple of hairs, postalar 2, prescutellars only a minute pair, anterior acrostichals in a double row but irregularly widening backward; scutellum bare below. Hind calypter much exceeding front one, as in *Coenosia*.

Wing as in *Coenosia*, but the anterior crossvein before the end of the first vein, barely beyond end of auxiliary; costa somewhat bowed before tip of auxiliary, widening the costal cell; sixth vein does not reach margin.

Legs with one noteworthy feature—the front femur lacking the usual row of bristles on outer lower edge, bearing only one near the tip.

Atherigona pulvinata Grimshaw.

Has all the characters enumerated as generic, but the small dorsocentrals appear to increase by one before and behind, making the formula 5, 3; the anterior acrostichals also begin with three rows, increasing irregularly to five. Lower sternopleural farther back.

Male. General color opaque gray, mesonotum and most of the pleura and back of head black in ground color, the remainder yellow. Antennæ blackish apically, reddish at base, third joint about four times the second; arista thickened on basal two-fifths, its penultimate joint rather distinct; palpi brownish-yellow, long; upper four or five of the row of post-ocular cilia stout, upcurved.

Humeri and most of scutellum yellow; small hairs of mesonotum rather coarse and scattered, scutellum with long apical pair, two lateral, one small discal, lower sternopleural almost below the hind one but not approximated to it; calypters white, halteres light yellow.

Abdomen yellow, broad at base and abruptly tapering, curved downward; first two segments large dorsally, the second tergite broad on its deflected edges, covering the corresponding part of the much smaller third and fourth segments. Dorsally the first segment has a pair of large, vague, brown discolorations, the second a pair of widely separated roundish black spots behind the middle, the third a similar pair not so much separated and smaller, the fourth a pair of the same size but closer together, all deep black on yellow ground. The small hypopygium is bent forward, its margin notched and blackened below, the homology obscure.

Legs and coxæ yellow, front legs infuscated from tips of femora; middle and hind tarsi black at base, somewhat paler apically; hind tibiæ a little infuscated. Front femur with a tuft of short, soft hairs above just at tip; front tibia without bristles, mid with one small behind near middle, hind with one small on outer hind side just below middle and one each on outer front and inner hind side at a slightly lower level. Claws and pulvilli short.

Wings hyaline; third vein curving backward before tip so that it ends very slightly behind the extreme apex; hind cross-vein straight.

Female. Front legs much more infuscated, only the coxæ and base of femora yellow, front femur not with tuft; tarsi black; palpi widened and considerably blackened, prominent. Abdomen normal, with four pairs of spots; those on first and second segments triangular and brownish, the other two pairs smaller, roundish, black; a trace also of a dark median stripe.

Length, 3.1 to 3.7 mm.

Described from many Hawaiian specimens.

As already stated, there are no published references to the early stages that I know of. I have seen no larvæ; but puparia

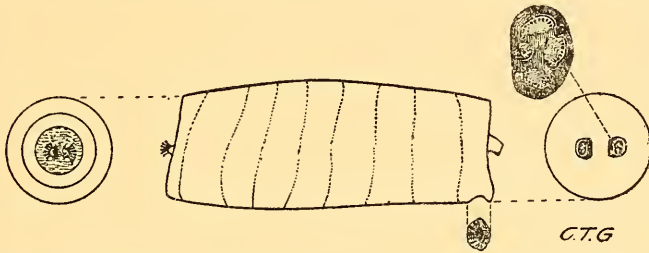


Fig. 2—Puparium of *Atherigona pulvinata* Grimsh. Viewed from the left side. Anterior end shown at left and posterior at right; the larval anal opening below at right end, and the posterior spiracle more enlarged above at right. (Drawn by C. T. Greene.)

are pinned with several of Mr. Back's Hawaiian specimens, and with one of Woglum's from Hermosillo, Mexico. From the latter, Mr. C. T. Greene very kindly made me a drawing (fig. 2), showing its singular characters; the Hawaiian specimens show no differences.

Instead of forming an elliptical body, the puparium is truncated at both ends, like a barrel, only longer in proportion. The anterior end has a distinct circular rim but little smaller than the diameter at middle of body; the anterior spiracles are not located behind the rim as one would expect, but are drawn in nearly to the center of the flat anterior disk, as figured. Other characters are as figured.

I have seen only *varia* and *pulvinata* in this genus, and do not detect any important subgeneric characters for *Acritochaeta*. *Varia* has a little smaller palpi, its hind crossvein is more erect, and its third vein is not bent back toward the tip. The abdomen of *varia* male is peculiar, consisting apparently of three segments plus a large hypopygium; as the Museum possesses but a single male, I am unable to make a thorough study of this. The abdomen of *varia* female, however, is like that of *pulvinata*.

NOTE.—In Proceedings of the Washington Entomological Society, vol. 21, 1919, p. 106, I established a new Anthomyiid genus with the name *Pergandea*. This being preoccupied in Hemiptera, I now substitute GANPERDEA, new name.

THE FIRST SABETHES LARVA FOUND

(*Diptera, Culicidæ*)

BY J. BONNE-WEPSTER AND C. BONNE

October, 1920, at Moengo, Surinam, we discovered in the water of a hole in a fallen tree a few predacious Sabethine larvæ, feeding on *Culex coronator* Dyar and Knab, *Culex bonneæ* Dyar and Knab, *Culex mollis* Dyar and Knab and even *Uranotaenia lowii* Theobald. The water contained many green algæ. To our great surprise we bred from these larvæ three females of *Sabethes bipartipes* Dyar and Knab.

***Sabethes bipartipes* Dyar and Knab.**

Larva: Head broad. Lower head-hairs single, upper double; both pairs slight. Antennæ cylindrical, rounded, smooth, a slight tuft of two hairs on outer fifth. Mental plate narrow, with a big ventral tooth and eight smaller ones on each side. Maxillæ conical, with one strong big horn at tip and seven teeth on one margin; a stout rod-like hair present near tip. Comb of eighth segment rather irregular number of nine to sixteen simple spines on a strip of chitin. Air tube conical, spicular, two and a half times as long as wide; a few small, irregularly placed hairs present, two strong hooks at tip. Anal